Nokia Customer Care
2255 (RM-97)
Mobile Terminal

Antenna Description and Troubleshooting

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Introduction

This troubleshooting guide addresses potential failures that affect antenna performance of the 2255, and discusses methods for correction of these failures.

Stub Antenna

The 2255 uses a single band stub antenna for CDMA CELL band. The antenna radiator is a flex meander that is wrapped around a plastic connector and overmolded.

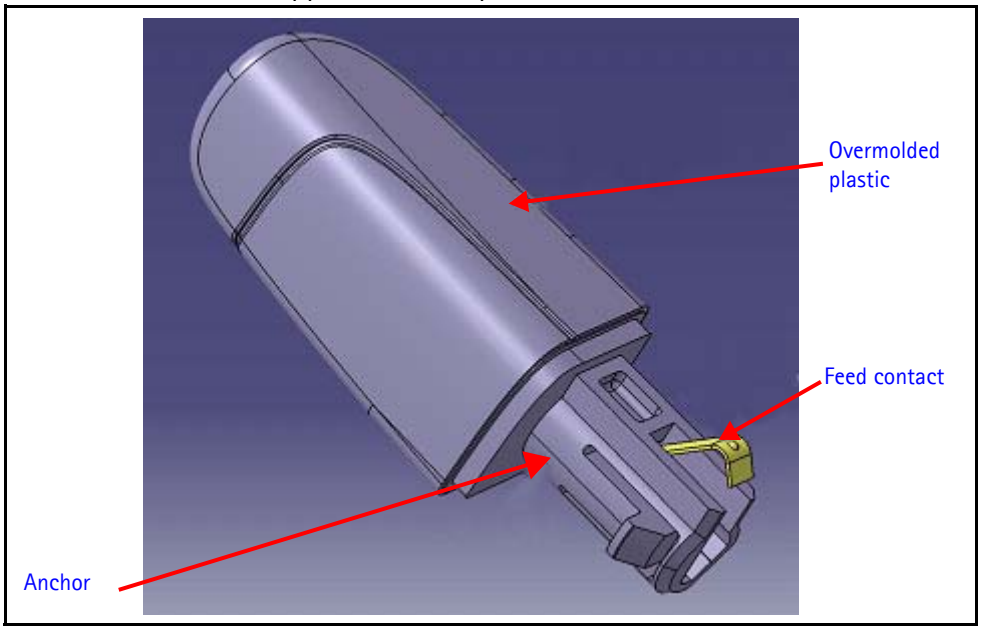

Figure 1: Main parts of stub antenna

Failures and Corrective Measures

Installing the stub antenna

Figure 2 shows the assembly of the stub antenna into the D-cover.

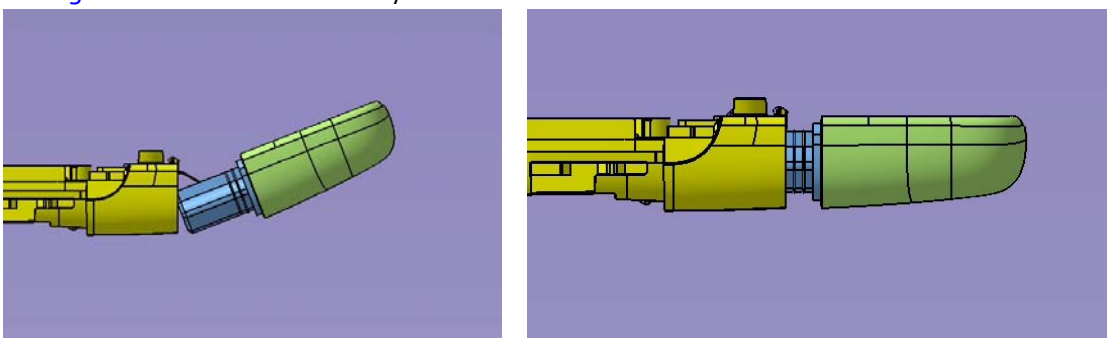

Figure 2: Installing a stub antenna

If no stub antenna is installed, the antenna gain will be degraded by more than 25 dB.

The stub has a hook on the antenna anchor which locks the antenna into the D-cover when installed. See Figure 3.

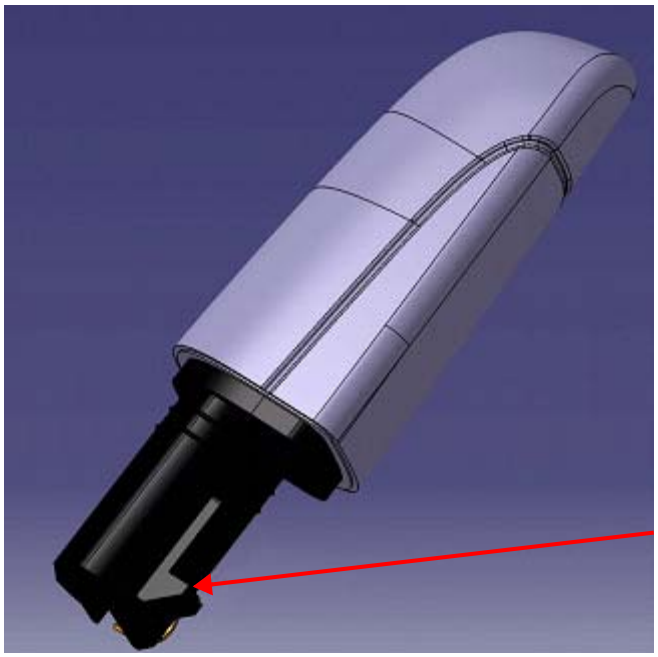

Figure 3: Locking mechanism on antenna anchor

During antenna installation, the antenna anchor passes through a plastic loop in the C-cover (See Figure 4). The antenna is the last item to be installed during assembly of the mobile terminal.

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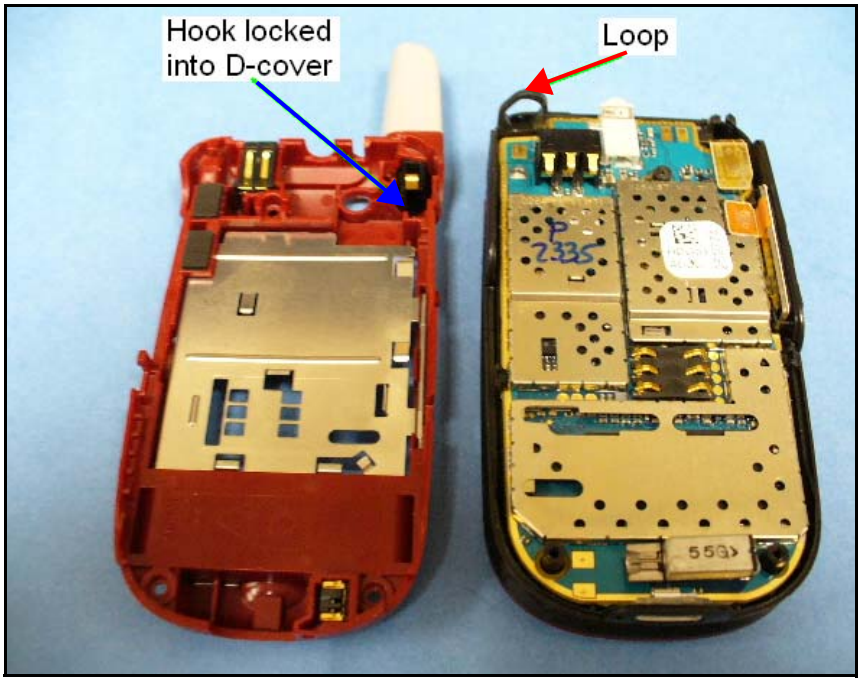

Figure 4: Antenna locked into D-cover and plastic loop in C-cover

Uninstalling the stub antenna

During disassembly of the mobile terminal, the antenna needs to be uninstalled first. To uninstall an antenna, a special extraction tool is needed. The antenna should never be extracted by force as the antenna and/or the D/C-covers may brake or be damaged.

Use the static portion of the extraction tool to align the tool onto the D-cover. A moving lever passes though the RF connector hole and releases the hook from D-cover.

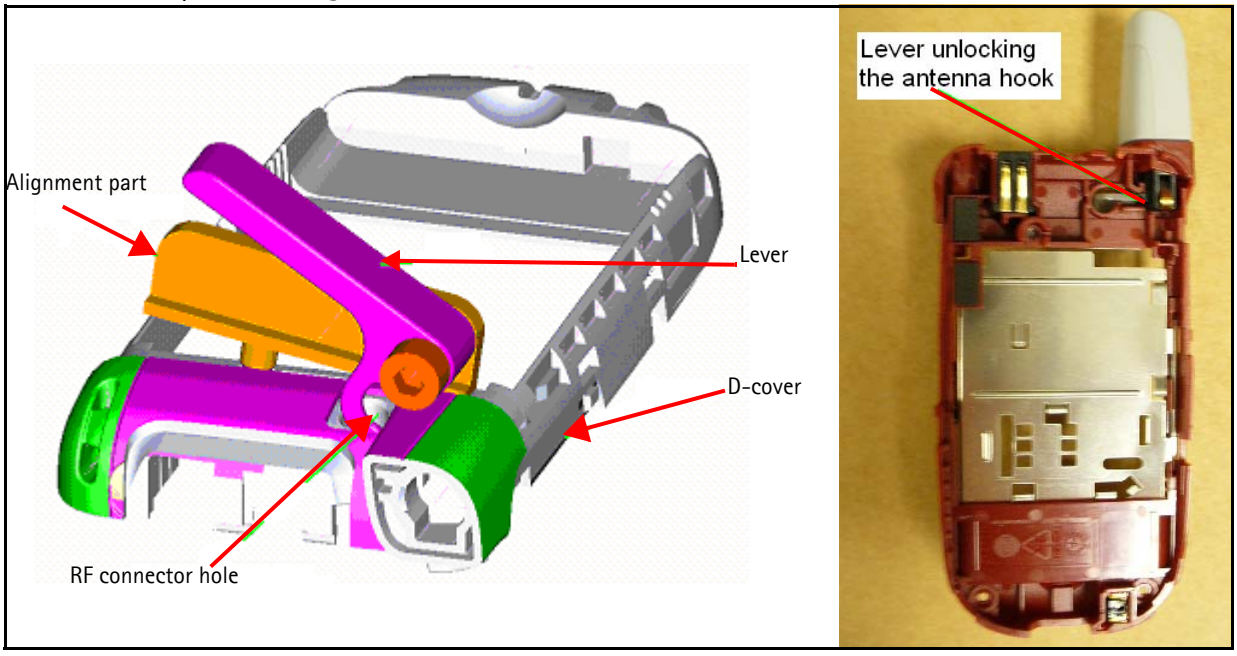

Figure 5: Position of antenna extraction tool onto D-cover

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Damaged RF Feed Pin

The stub antenna has a spring clip feed contact that should properly touch the PWB. Positioning of this pin is shown in Figure 2.

- If the RF feed pin is broken or bent the pin will not touch the PWB and the stub antenna must be replaced. If the spring for the RF feed pin damaged, replace the stub antenna.
- If the RF feed pin of the stub antenna does not touch the PWB, the antenna gain will degrade by more than 25 dB.

Obstructed RF feed pad or missing matching circuit

If the RF feed pin is obstructed, removed or covered, the RF pin will not touch the PWB and then the antenna performance will degrade.

- If corrosion is present or the pad is missing, replace the PWB and the mobile terminal.
- If either pad is obstructed or covered, clean and/or clear the pad.

The antenna matching circuit is positioned next to the RF feed pad. If the matching circuit is improperly installed or any of the components are missing, the antenna gain will be degraded by about 25dB.

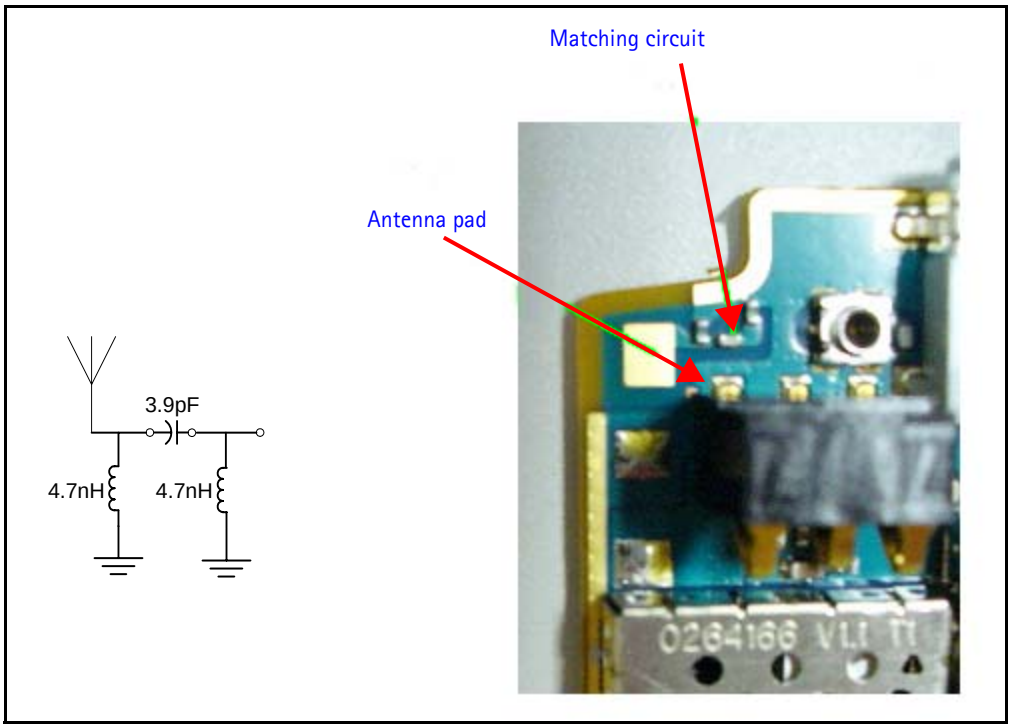

Figure 6: PWB layout of RF feed pad and matching circuit

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